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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,280	01/14/2002	Yung Yip	10305US01	4504

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Attention: Eric D. Levinson
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EXAMINER

NGUYEN, TANH Q

ART UNIT	PAPER NUMBER
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2182

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/047,280	Applicant(s) YIP ET AL.	
	Examiner Tanh Q. Nguyen	Art Unit 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8,10-16,26,27,30,31,33 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,10-16,26,27,30,31,33 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 4-5, 7-8, 10, 14-15, 26-27, 30-31,33 are rejected under 35

U.S.C. 102(e) as being anticipated by **Greco (US 2003/0070056 A1)**.

3. As per claims 1, 4, **Greco** discloses a system [FIG. 1] comprising:

a data cartridge [40, FIG. 2] carrying a non-tape storage medium [11, FIG. 1], wherein the data cartridge includes read/write circuitry [12, FIG. 1 and FIG.2] to access the non-tape storage medium and an external electrical connector coupled to the read/write circuitry [18, FIG. 1; 48, FIG. 2]; and

a tape drive emulator [10, 17, FIG. 1; 209, 210, 215, 216, 218, FIG. 7; [0044]-[0045]; [0069]-[0084]] having an electrical socket [19, FIG. 1; 140, FIG. 3] to receive the electrical connector of the data cartridge.

4. As per claims 2, 5, 7, 8, 10, 14, 15, **Greco** discloses a socket having a set of connectors that engage the electrical connections of the data cartridge using a normal force on the cartridge ([0036]-[0040]), hence the socket being a zero insertion force socket – claim 2;

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the tape drive emulator comprising a host interface [15, FIG. 1] to electrically couple the tape drive emulator to a host computing device [14, FIG. 1] – claim 5;

the tape drive emulator comprising a translation unit [209, 210, 215, 216, 218, FIG. 7] to translate commands between the host interface and the electrical socket, the translation unit receiving data stream commands from the host interface and translates the data stream commands into disk drive format commands ([0044]-[0045]; [0069]-[0084]) – claims 7-8;

the non-tape storage medium comprising a disk-shaped storage medium [11, FIG. 1] – claim 10;

an automation unit [90, FIG. 4] to selectively retrieve the data cartridge [40, FIG. 4] from a plurality of data cartridges conforming to industry standard dimensions for magnetic tape data cartridges ([0033]), hence the data cartridge and the tape drive emulator being compatible with existing automation systems – claim 14;

the data cartridge comprising a housing conforming to industry standard dimensions for magnetic tape data cartridges ([0033]) – claim 15;

5. As per claims 26-27, 30-31, see the rejections to claims 1-2, 5, 7 above.

6. As per claim 33, Greco teaches the non-tape storage medium comprising a disk-shaped storage medium [11, FIG. 1] and the tape drive emulator comprising a disk drive interface [a socket to receive the connector of the data cartridge [19, FIG. 1; 140, FIG. 3]].

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 6, 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Greco** in view of **Albrecht et al. (US 2002/0159182 A1)**.

10. As per claim 6, Greco discloses the claimed invention except for the host interface conforming to one of the SCSI, the Fiber Channel, and the EIDE/ATA interfaces. Greco, however, discloses an embodiment of a data cartridge being described by copending US patent application S/N 09/842,030 by Albrecht - US 2002/0159182 A1 ([0033]).

Albrecht discloses the data cartridge communicating at the data transfer interface using the SCSI format ([0055]), hence the tape drive emulator communicating with the data cartridge using an interface conforming to the SCSI interface. It would have been

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obvious to one of ordinary skill in the art at the time the invention was made to use a host interface conforming to the SCSI interface to maintain compatibility between the tape drive emulator and the host computing device.

Since Greco discloses an embodiment of a data cartridge being described by Albrecht, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a SCSI interface as the host interface in Greco's tape drive emulator to enable data transfer between the host computing device and the tape drive emulator and to maintain compatibility between the tape drive emulator and the host computing device.

It is further noted that since there are a plethora of interface formats that can be used as the host interface format to enable communication between the host computing device and the tape drive emulator, there is no patentability in using a host interface with a particular format.

11. As per claim 12, Greco discloses the claimed invention except for the data cartridge comprising a disk drive controller to control access to the non-tape storage medium, wherein the controller communicates with the tape drive emulator according to one of the SCSI, the Fiber Channel, and the EIDE/ATA interfaces. Greco, however, discloses an embodiment of a data cartridge being described by copending US patent application S/N 09/842,030 by Albrecht - US 2002/0159182 A1 ([0033]).

Since it was well known in the art at the time the invention was made for a disk drive to comprise a disk drive controller to control access to the disk, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

incorporate a disk controller in Greco's data cartridge to allow Greco's data cartridge to control access to the non-tape storage medium.

Albrecht discloses the data cartridge communicating at the data transfer interface using the SCSI format ([0055]), hence the data cartridge communicating with the tape drive emulator using an interface conforming to the SCSI interface.

Since Greco discloses an embodiment of a data cartridge being described by Albrecht, and since Albrecht discloses the data cartridge communicating with the tape drive emulator using an interface conforming to the SCSI interface, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a disk drive controller that use SCSI interface in Greco's data cartridge to control access to the non-tape storage medium.

It is further noted that since there are a plethora of interface formats that can be used to allow the disk drive controller to communicate with the tape drive emulator, there is no patentability in using a particular interface format for communication between the disk drive controller and the tape drive emulator.

12. As per claim 13. Greco discloses the claimed invention except for the tape drive emulator providing power to the controller of the data cartridge via the electrical connector of the data cartridge. Greco, however, discloses an embodiment of a data cartridge ([0033]) and an example of a loader ([0039]) being described by copending US patent application S/N 09/842,030 by Albrecht - US 2002/0159182 A1.

Albrecht discloses the socket [130, FIG. 11; 141, FIG. 23] of the transfer station (loader [100, FIG. 11 and FIG. 23]) providing power to the data cartridge [40, FIG. 23]

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via the electrical connector [48, FIG. 3] of the data cartridge ([0096]-[0097]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Albrecht's power transfer from the loader to the data cartridge in Greco's system since Albrecht's loader was used as an example of a loader in Greco's tape drive emulator and Albrecht's data cartridge was used as an embodiment of Greco's data cartridge, and since such incorporation would allow Greco's tape drive emulator to provide power to operate the disk drive of the data cartridge.

13. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Greco**.

Greco further discloses the data cartridge [40, FIG. 2] including a self-contained disk drive [12, FIG. 1 and FIG. 2] housing the disk-shaped storage medium [11, FIG. 1], therefore discloses the claimed invention except for the disk drive housing a disk drive controller.

Since it was well known in the art at the time the invention was made for a disk drive to comprise a disk drive controller to control access to the disk, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a disk controller in Greco's data cartridge to allow Greco's data cartridge to control access to the non-tape storage medium.

14. Claims 16 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Greco** in view of **Goodman et al. (US 2002/0169521 A1)**.

Greco discloses the claimed invention except for the tape drive emulator having

a form factor of an industry standard tape drive.

Goodman discloses a data storage library featuring multipurpose slots, each configured to receive a media drive (e.g. IBM 3570 tape drive: [0031], [0040]) or other various modules (Abstract, lines 1-6) to allow the data storage library to be easily updated with new equipment ([0004]), the other various modules including storage emulators ([0009]), hence teaches the storage emulators having a form factor conforming to the industry standard tape drive.

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the dimensions of Greco's tape drive emulator to conform to the industry standard tape drive because such dimensions would allow for easy replacement of existing tape drives with tape drive emulators and therefore updating the data storage library with new equipment without wasting the slots in a data storage library such as Goodman's data storage library.

Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the dimensions of Greco's tape drive emulator to conform to the industry standard tape drive, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Response to Arguments

15. The declaration filed on May 15, 2006 under 37 CFR 1.131 has been considered but is still ineffective to overcome Greco (US2003/0070056 A1).

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16. First, the examiner notes that in section 19, applicant made reference to claims 26, 27, 30-34 in line 3, which is not in accord with the pending claims - as claim 32 was cancelled;

17. Second, the evidence submitted is insufficient to establish diligence from a date prior to the effective date of the Greco reference (October 5, 2001) to the US filing date of this application (January 14, 2002) because there is a period lacking activity.

With respect to section 27, since six days to execute and file an application is acceptable and there is a 15 business-day between December 21, 2001 and January 14, 2002, excluding Christmas and New Years Day, the detailed account of activities between December 21 and January 14, 2002 need to be supported.

Section 27 indicates that Mr. Levinson worked on or directed his assistant in proofing the patent application, preparation of formal filing papers, and meeting with Mr. Yip and Mr. Olson to review the patent application and execution of the declaration, and filing the patent application with the U.S. Patent Office. Mr. Levinson's assistant needs to be identified, and dates and facts need to be associated with the activities (e.g. when Mr. Levinson directed the assistant; whether Mr. Levinson, the assistant, or both Mr. Levinson and the assistant proofed the patent application, prepared the formal filing papers, and met with Mr. Yip and Mr. Olson and when each of the activities took place). Evidence that the filing was not delayed because of vacations needs to also be provided.

Section 27 also indicates that any period during which the invention was not worked by Mr. Levinson's assistant was due to intervening holidays and the normal

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workload associated with Mr. Levinson's practice that was taken up in chronological order. Mr. Levinson's assistant needs to declare that any period during which the invention was not worked was due to intervening holidays - as Mr. Levinson, Mr. Sieffert, Mr. Yip and Mr. Olson cannot make the declaration for Mr. Levinson's assistant and as the normal workload associated with Mr. Levinson's practice does not apply to Mr. Levinson's assistant.

18. With respect to sections 23-24, 26, the examiner further suggests replacing
- "Any period...during which the invention was not worked on was due to holidays or normal attorney workload associated with Mr. Sieffert's practice"
- with
- "Any period...during which the invention was not worked on was due to holidays or normal attorney workload taken up by Mr. Sieffert in chronological order according to his docket, and carried out expeditiously"
- to make them consistent with section 25.

Conclusion

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the


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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ~~Tanh Q. Nguyen~~ whose telephone number is 571-272-4154. The examiner can normally be reached on M-F 9:30AM-7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


August 5, 2006

TQN
August 5, 2006